

## CLAIMS

1. An activation method for an active-hydrogen-containing compound characterized in that active hydrogen in the active-hydrogen-containing compound is activated by using a polymer gel.
2. The activation method for an active-hydrogen-containing compound according to claim 1, characterized in that said polymer gel has a ratio of swell of not less than 2.
3. The activation method for an active-hydrogen-containing compound according to claim 1, characterized in that said polymer gel has a basic functional group.
4. The activation method for an active-hydrogen-containing compound according to claim 3, characterized in that said activation of active hydrogen is carried out under a condition that a product between an amount of said basic functional group per unit dry weight of said polymer gel and an apparent specific gravity of said polymer gel in the reaction system accompanying the activation of active hydrogen is set to not less than 0.43 mmol/cc.
5. The activation method for an active-hydrogen-containing

compound according to claim 3, characterized in that said activation of active hydrogen is carried out under a condition that an amount of basic active sites per unit volume of said polymer gel in the reaction system accompanying the activation of active hydrogen is set to not less than 0.43 mmol/cc.

6. The activation method for an active-hydrogen-containing compound according to claim 5, characterized in that said basic active sites of the polymer gel are basic functional groups derived from at least one compound selected from the group consisting of tertiary amine compounds, quaternary ammonium salts, cyclic amine compounds and sulfides.

7. The activation method for an active-hydrogen-containing compound according to claim 5, characterized in that said basic active sites of the polymer gel are basic functional groups derived from at least either of N,N,N-triallylamine and N,N-diallylamine.

8. The activation method for an active-hydrogen-containing compound according to claim 1, characterized in that said activation of active hydrogen in the active-hydrogen-containing compound is carried out during a reaction in which a heterocyclic compound or an aldehyde is subjected to

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an addition reaction to an active-hydrogen-containing compound that is at least one selected from the group consisting of phenols, amides, alcohols, carboxylic acids, malonic acid, acids containing a cyano group, and esters thereof.

9. The activation method for an active-hydrogen-containing compound according to claim 8, characterized in that said active-hydrogen-containing compound is (metha)acylic acid and said heterocyclic compound is an oxirane compound.

10. An activation catalyst for an active-hydrogen-containing compound characterized in that said activation catalyst has a three-dimensional network structure holding a solvent inside thereof, and is provided with active sites for activating active hydrogen inside said three-dimensional network structure and/or on surfaces thereof.

11. The activation catalyst for an active-hydrogen-containing compound according to claim 10, characterized in that said activation catalyst is made of a high molecular compound having a cyclic amine structure in the main chain thereof.

12. The activation catalyst for an active-hydrogen-

containing compound according to claim 11, characterized in that said high molecular compound is a grainy high molecular compound having a particle size in a range of 0.2 mm to 2 mm with a cyclic amine structure in the main chain thereof.

13. The activation catalyst for an active-hydrogen-containing compound according to claim 11, characterized in that said high molecular compound has a thermal decomposition temperature of not less than 300 C.

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a<sup>3</sup>

add  
B<sup>1</sup>